



Runway 5-23 Rehabilitation Project

A ten-year project, ten years in the making

- ✦ **Overall Design Work for RWY 5-23 Projects started in 2006**

- ✦ **Phase I: RWY 5-23 Keel Repair project (2015 – 2017)**

- ✦ Preparation for remaining RWY 5-23 phases

- ✦ New Keel section provided the proper structural integrity for impending phases

- ✦ **Phase II: RWY 5-23 Safety Area Construction, Culvert Replacement & New MALSR System installed**

- ✦ **Tenants involved in Safety Management System (SMS) – December 2018**

- ✦ **Operational impacts to be discussed throughout presentation**

- ✦ **Overall Project Benefits**

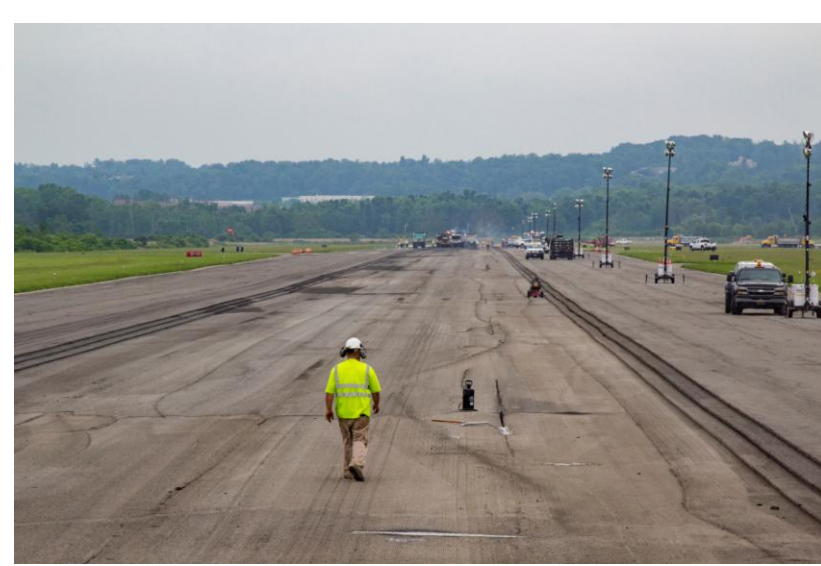
- ✦ Installation of brand-new MALSR system

- ✦ Appropriate grading for Runway Safety Areas for RWY 23

- ✦ Replacement of deteriorated drainage culverts beneath MALSR road

- ✦ **Remaining Phases: (2021 – 2028)**

- ✦ Detailed explanations to follow closer to phase start time



Phase 1 Recap

✦ RWY 5-23 Keel Repair Work

- ✦ Milled out and repaved center 50' Keel Section of 5,800' of RWY 5-23
- ✦ Addressed depression on RWY 5-23 to provide pilots with a better operational surface
- ✦ Provided daily project updates via Email, Social Media and Website to airport operators
- ✦ Recent large-scale project experience

Timing of Upcoming Phase II

Phase II A*	Phase II B*	Phase II C*
Fall 2019 and Spring 2020	Summer 2020 through Fall 2020	Summer 2021 through Fall 2021

*All timing of Phase II, sections A, B & C are subject to change

Why is this project necessary?

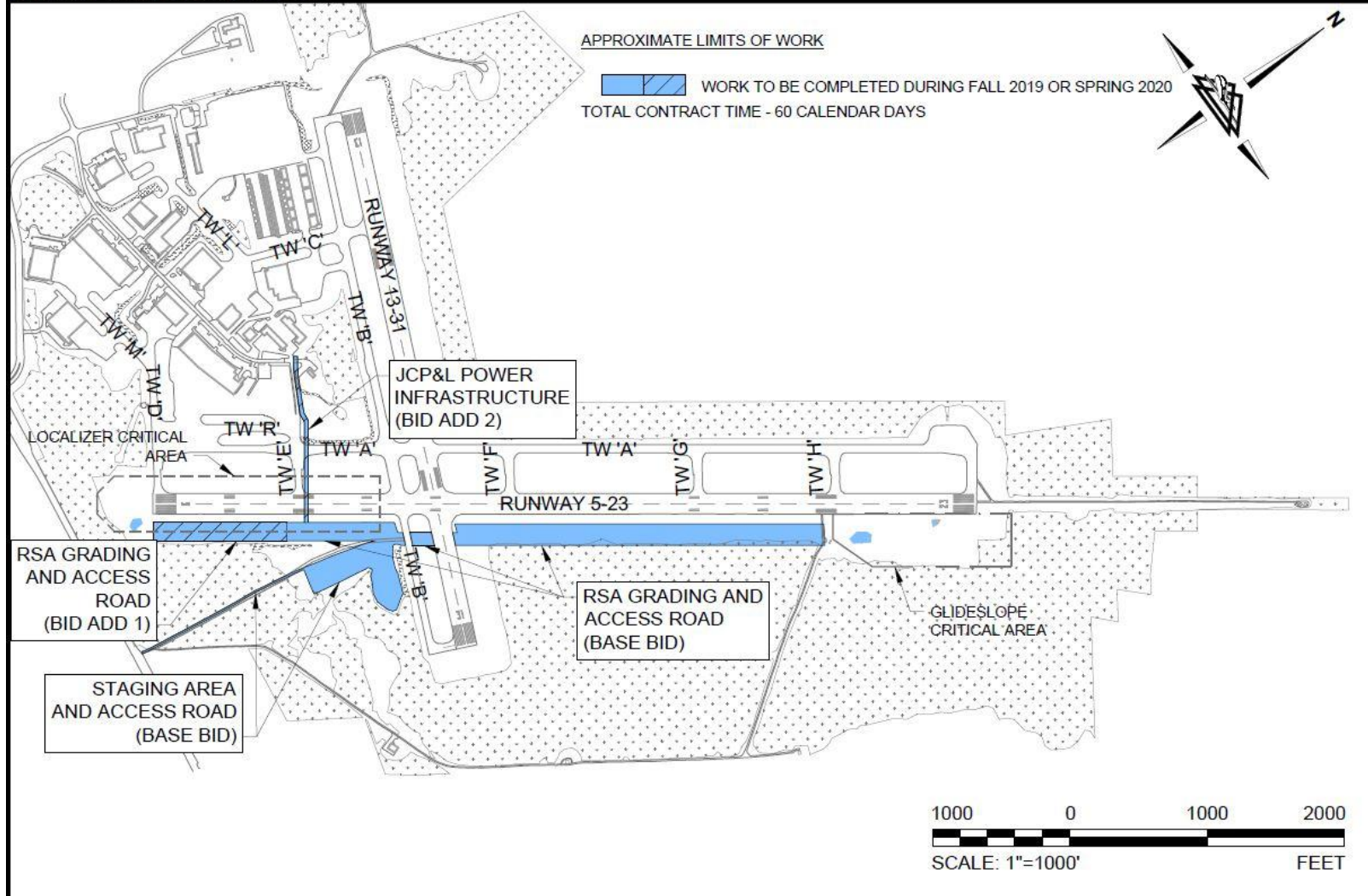
Continuing to provide a premier general aviation airport for our tenants and transient users is the **Most important job DM has!**

This RWY 5-23 Rehabilitation Project allow us to do that

- Separating phases over a number of years minimizes operational impacts
- Overall contract times have built in weather days
- Actual contract times could be shorter than expected
- Adhere to all the environmental requirements

Phase II A: Work to Begin Fall 2019 or Spring 2020

DRAWING: MMU - exh - Limits of Work 2019.dwg LAYOUT: L1



Total Contract Time = 60 Calendar Days

✦ Phase A Work Summary:

✦ Fall 2019

- ✦ Construction of entry road and staging area

✦ Spring 2020

- ✦ Construction of access road along east side of RWY 23
- ✦ Grading in Runway Safety Areas

- ✦ JCP&L line work pushed to a later phase.

NAVAID Impacts:

✦ Approaches/NAVAIDs out of service (OOS):

- ✦ ILS & LOC RWY 23 OOS for grading within RSA/LOC critical area

✦ Approaches Available:

- ✦ RNAV (RNP) Y RWY 23
- ✦ RNAV (GPS) RWY 05
- ✦ RNAV (GPS) Z RWY 23

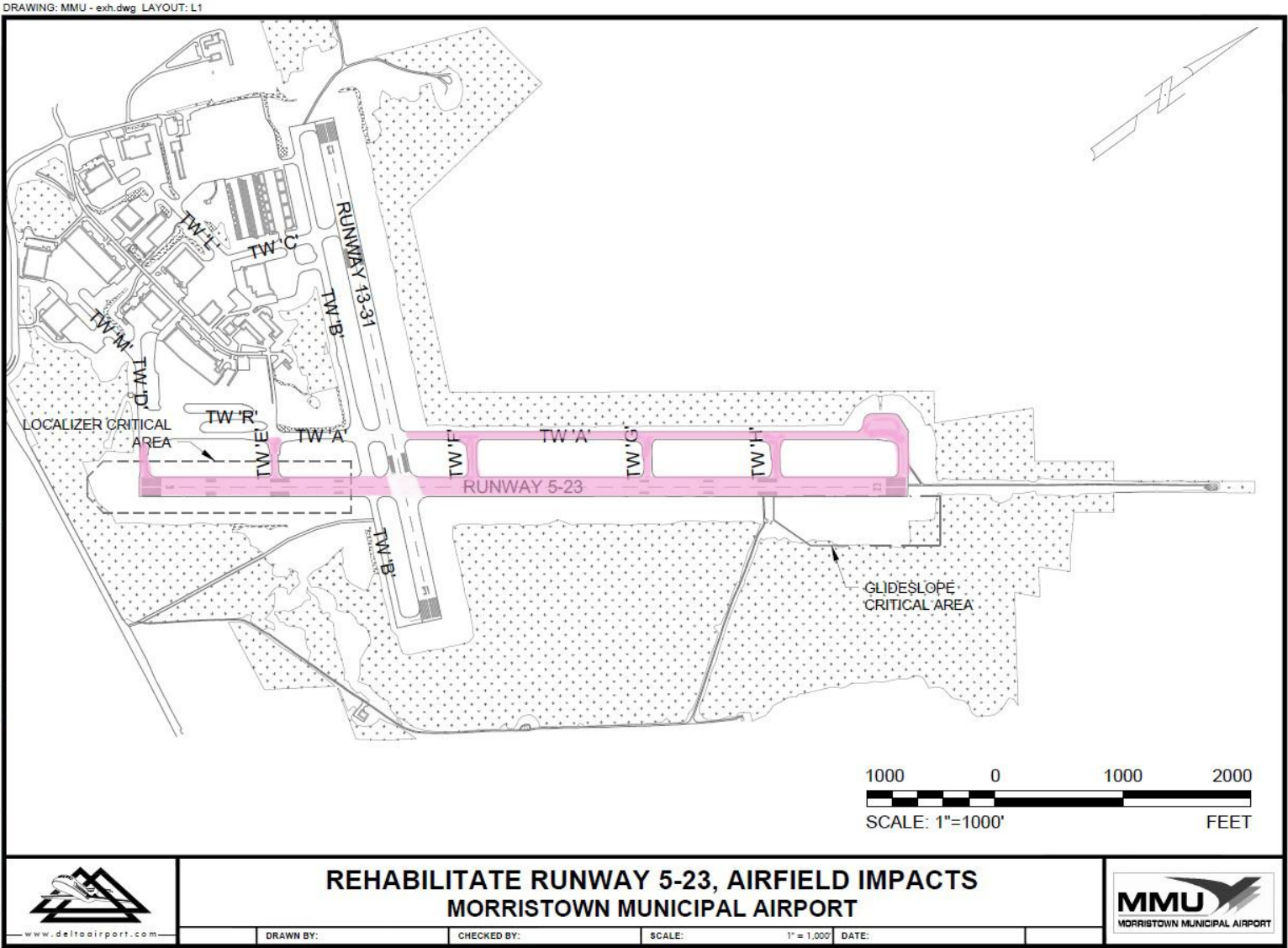
REHABILITATE RUNWAY 5-23, PHASE A MORRISTOWN MUNICIPAL AIRPORT

EXHIBIT
1

DRAWN BY: JFS CHECKED BY: DWJ SCALE: 1" = 1,000' DATE: FEBRUARY 2019

*Approach availabilities subject to change from FAA

Phase II A: RWY 5-23 Operational Impacts



**RWY 5-23 Closed for 30 night closures:
(2200L – 0600L)**

RWY 13-31 OPEN

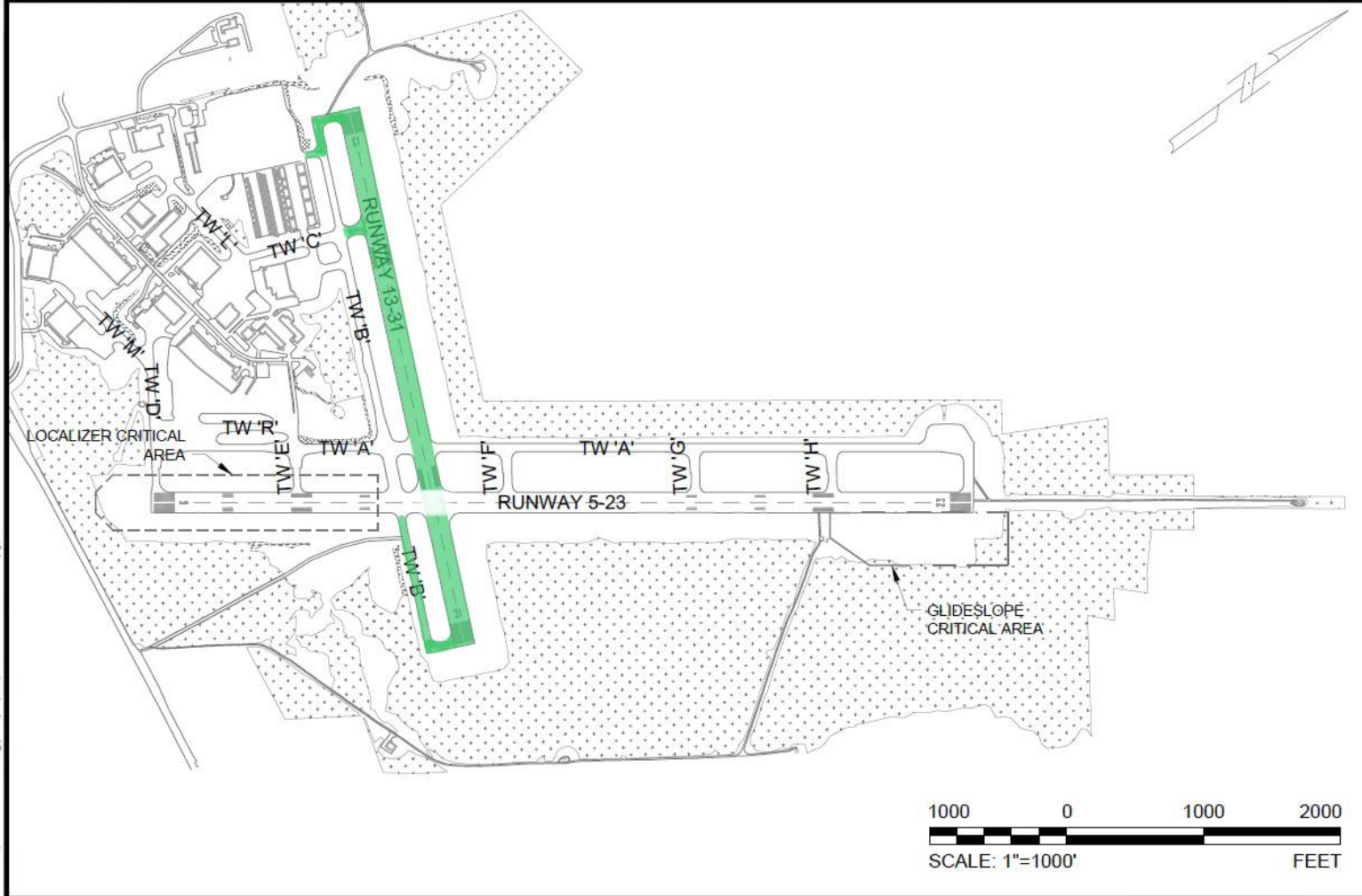
- ✈ **Taxiway Delta** closed from Taxiway Alpha to RWY 5
- ✈ **Taxiway Alpha** closed from RWY 13-31 to RWY 23
- ✈ **Taxiways Echo, Foxtrot, Golf & Hotel** closed from Taxiway Alpha to RWY 23
- ✈ **All taxiway closures during 2200L – 0600L**

✈ *Construction traffic crossing Taxiway Bravo and RWY 13-31*

N:\15022\04 CAD\Exhibits\MMU - exh.dwg, L1, 3/11/2019 3:27:05 PM, jjs2

Phase II A: RWY 13-31 Operational Impacts

DRAWING: MMU - exh.dwg LAYOUT: L1



**RWY 13-31 Closed for 8 night closures
2200L – 0600L (within 60-day contract
time)**

✈ **Taxiway Bravo East** closed from RWY
5-23 to RWY 13-31

✈ **Taxiway Charlie** closed from Taxiway
Bravo to RWY 13-31

✈ **Taxiway Bravo** closed from Taxilane
Kilo to RWY 13

✈ **All taxiway closures during
2200L – 0600L**

✈ *Construction traffic crossing
Taxiway Bravo and RWY 13-31
with escort from Airport Ops*

**REHABILITATE RUNWAY 5-23, AIRFIELD IMPACTS
MORRISTOWN MUNICIPAL AIRPORT**



DRAWN BY: _____ CHECKED BY: _____ SCALE: 1" = 1,000' DATE: _____



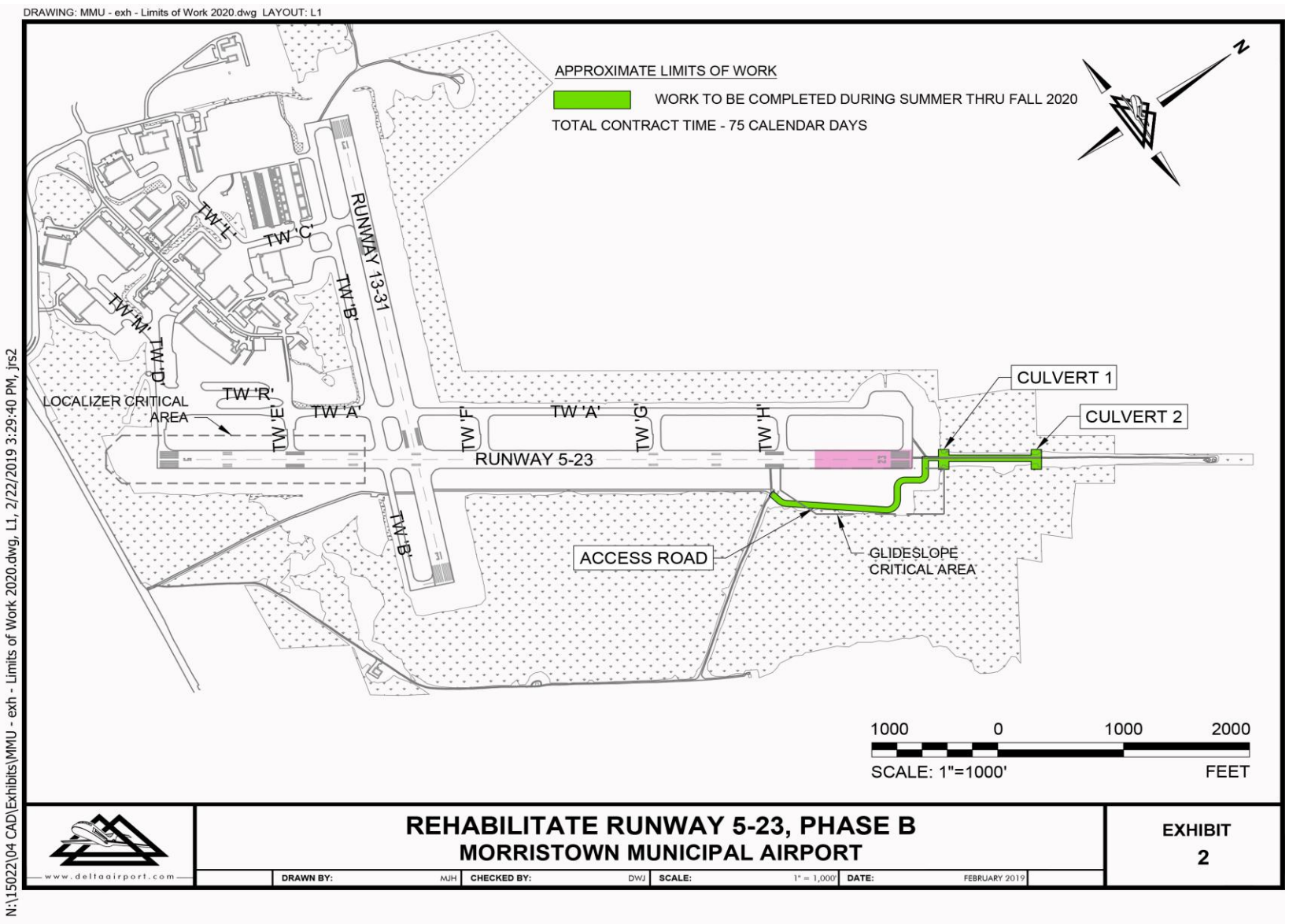
www.deltairport.com

Importance of Phase II A Construction

- ✈ Access road necessary for equipment to efficiently move to and from the RSA and ultimately to access the approach end of RWY 23 construction areas which will occur in Phase B
- ✈ Grading of RSA enhances proper drainage away from RWY 5-23 providing a stable surface that does not retain water
- ✈ Grading of RSA reduces chance of aircraft damage when deviation from RWY occurs

End of Phase A Overview

Phase II B: *Work to Begin Summer through Fall 2020



Total Contract Time = 75 Calendar Days

✈ Phase B Work Summary:

- ✈ RWY 23 Approach End displaced
 - ✈ 5,097' of remaining RWY
- ✈ Installation of two culverts off the approach end of RWY 23
- ✈ Complete perimeter road
- ✈ Install sheet piling – 60' high
 - ✈ using 180' crane

NAVAID Impacts:

- ✈ **Approaches/NAVAIDs out of service (OOS):**
 - ✈ ILS RWY 23 & MALSR OOS entire phase
- ✈ **Approaches Available:**
 - ✈ LOC RWY 23
 - ✈ RNAV (RNP) Y RWY 23
 - ✈ RNAV (GPS) RWY 05
 - ✈ RNAV (GPS) Z RWY 2#

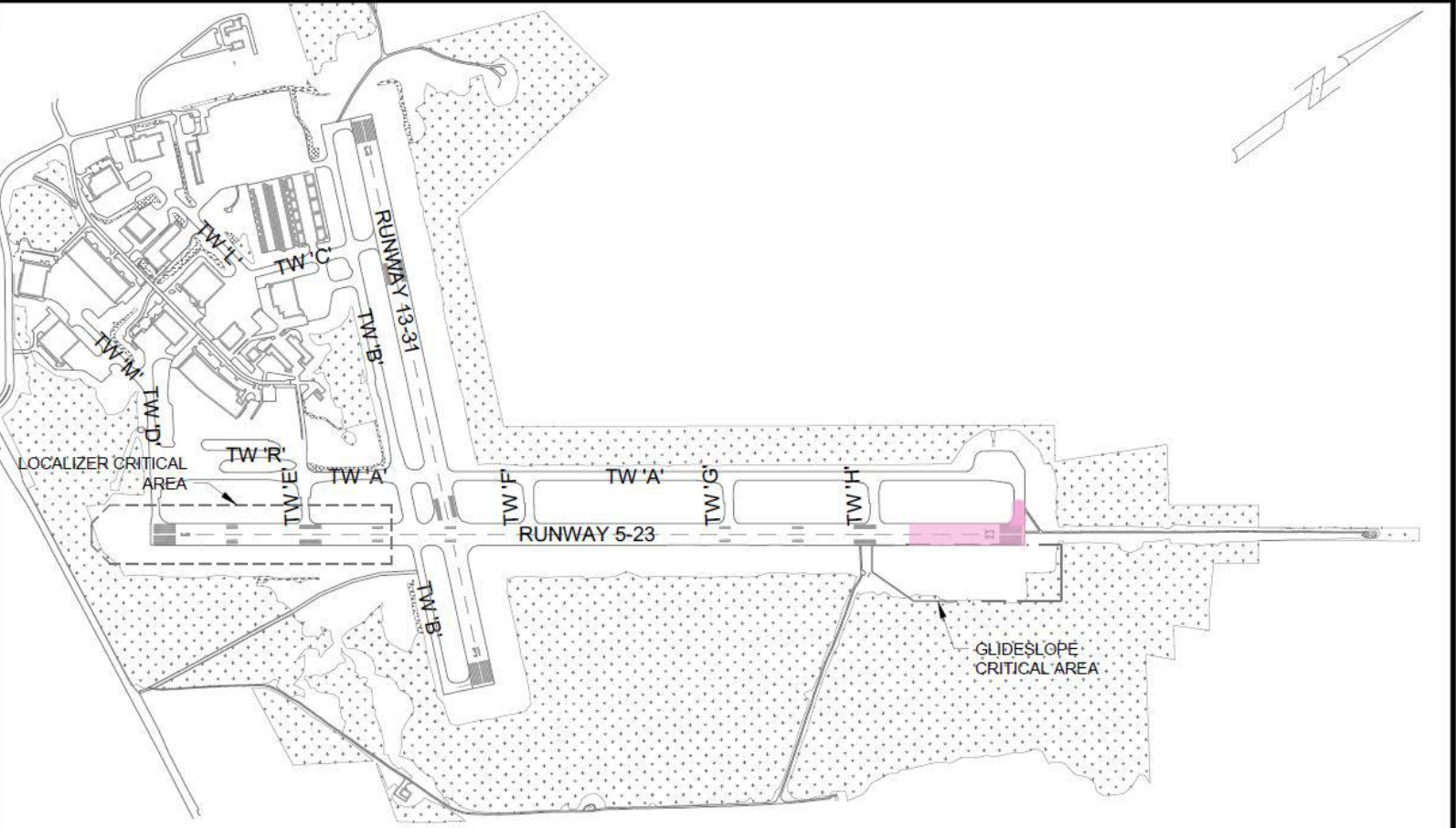
**Timing dependent on Phase II A completion*

**Approach availabilities subject to change from FAA*

N:\15022\04 CAD\Exhibits\MMU - ex - Limits of Work 2020.dwg, L1, 2/22/2019 3:29:40 PM, jrs2

Phase II B: RWY 5-23 Operational Impacts

DRAWING: MMU - exh.dwg LAYOUT: L1



RWY 23 Threshold Displaced for 75 days

- ✈ **Taxiway Alpha** closed from RWY 23
Hold line to approach end of RWY 23
- ✈ **Approx. 5,097'** of usable runway
length during threshold displacement

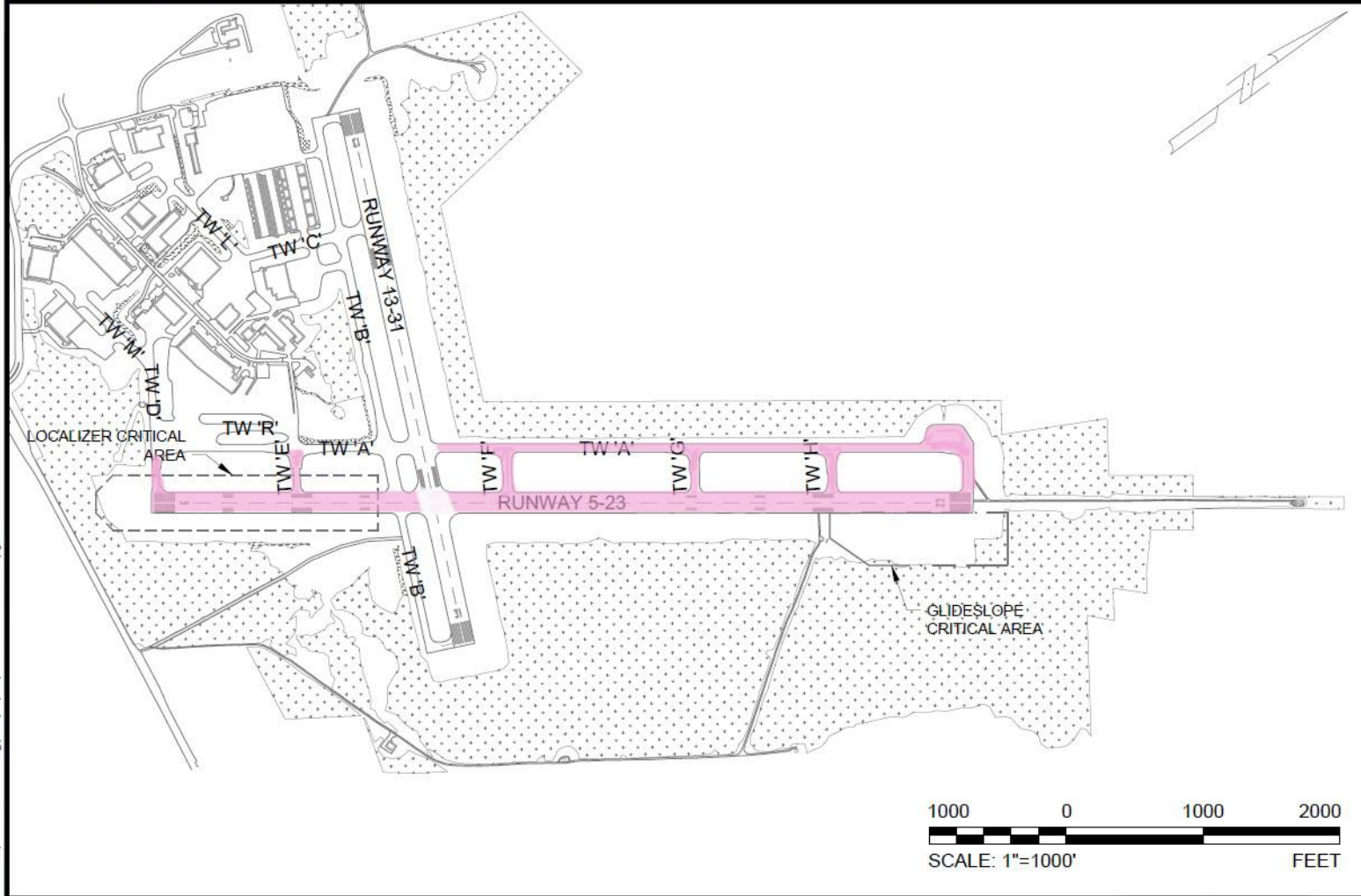


**REHABILITATE RUNWAY 5-23, AIRFIELD IMPACTS
MORRISTOWN MUNICIPAL AIRPORT**



Phase II B: RWY 5-23 Operational Impacts

DRAWING: MMU - exh.dwg LAYOUT: L1



**RWY 5-23 closed for 30 Night Closures;
within the 'Phase B' 75-day contract time**

RWY 13-31 OPEN

(2200L – 0600L)

- ✦ **Taxiway Delta** closed from Taxiway Alpha to RWY 5
- ✦ **Taxiway Alpha** closed from RWY 13-31 to RWY 23
- ✦ **Taxiways Echo, Foxtrot, Golf & Hotel** closed from Taxiway Alpha to RWY 5-23
- ✦ *Construction traffic crossing Taxiway Bravo and RWY 13-31 with escort from Airport Ops*

**REHABILITATE RUNWAY 5-23, AIRFIELD IMPACTS
MORRISTOWN MUNICIPAL AIRPORT**



DRAWN BY: _____ CHECKED BY: _____ SCALE: 1"=1,000' DATE: _____

N:\15022\04 CAD\Exhibits\MMU - exh.dwg, L1, 3/11/2019 3:27:05 PM, jjs2

www.deltairport.com

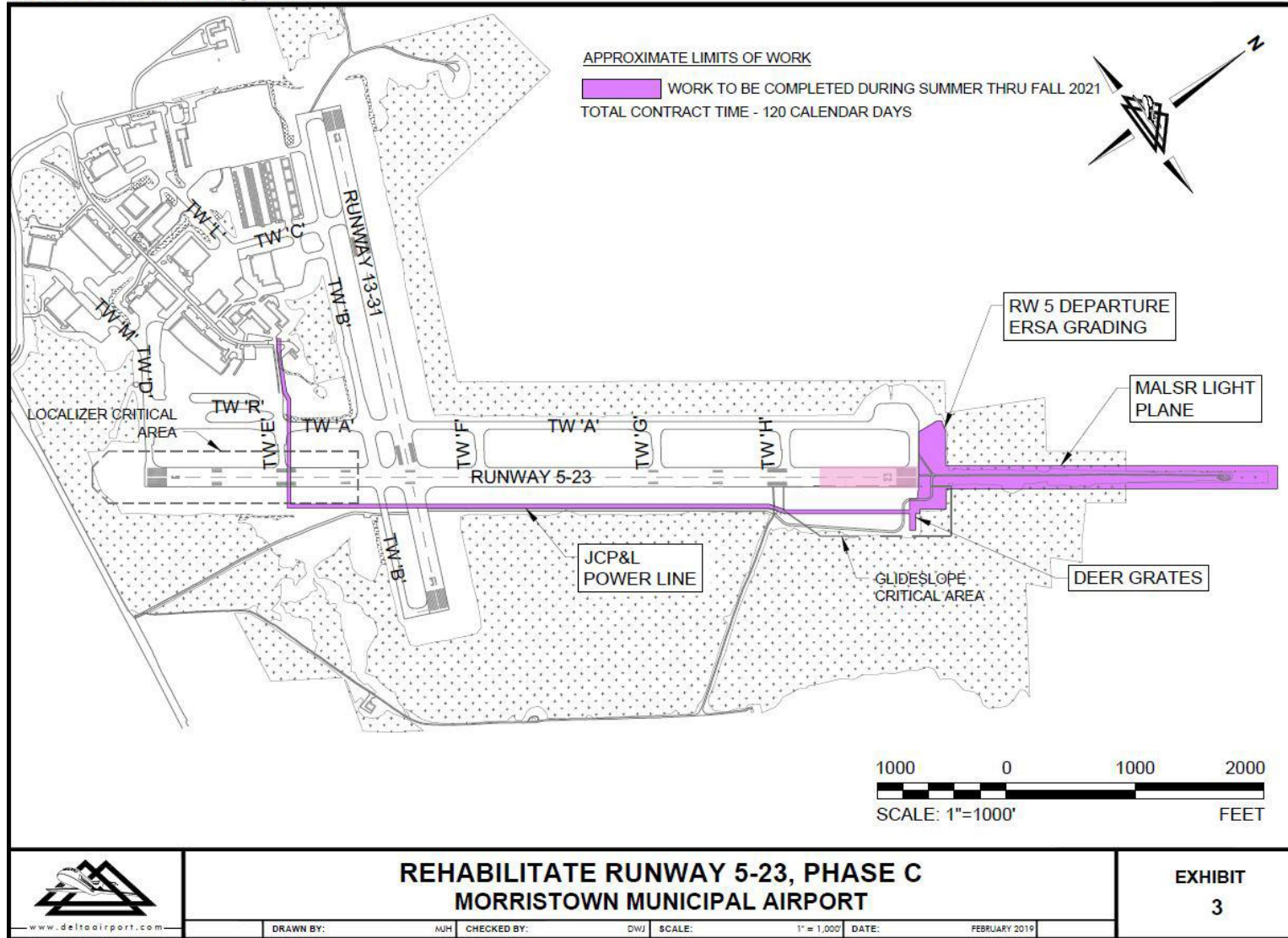
Importance of Phase II B Construction

- ✦ Significantly improves RSA by establishing weight-bearing structures under MALSR road for the first 1,000'
- ✦ Replacing older drainage culverts modernizes the structures and improves the structural integrity

End of Phase B Overview

Phase II C: *Work to Begin Summer through Fall 2021

DRAWING: MMU - exh - Limits of Work 2021.dwg LAYOUT: L1



Total Contract Time = 120 Calendar Days

✈ Phase C Work Summary:

- ✈ RWY 23 Approach End displaced
 - ✈ 5,097' of remaining RWY
- ✈ RWY Threshold Displaced
- ✈ Regrading of Runway Safety Area for RWY 5 Departure
- ✈ MALSR Light Plane replacement
- ✈ Installation of JCP&L Power Line
- ✈ Replace deer grates

NAVAID Impacts:

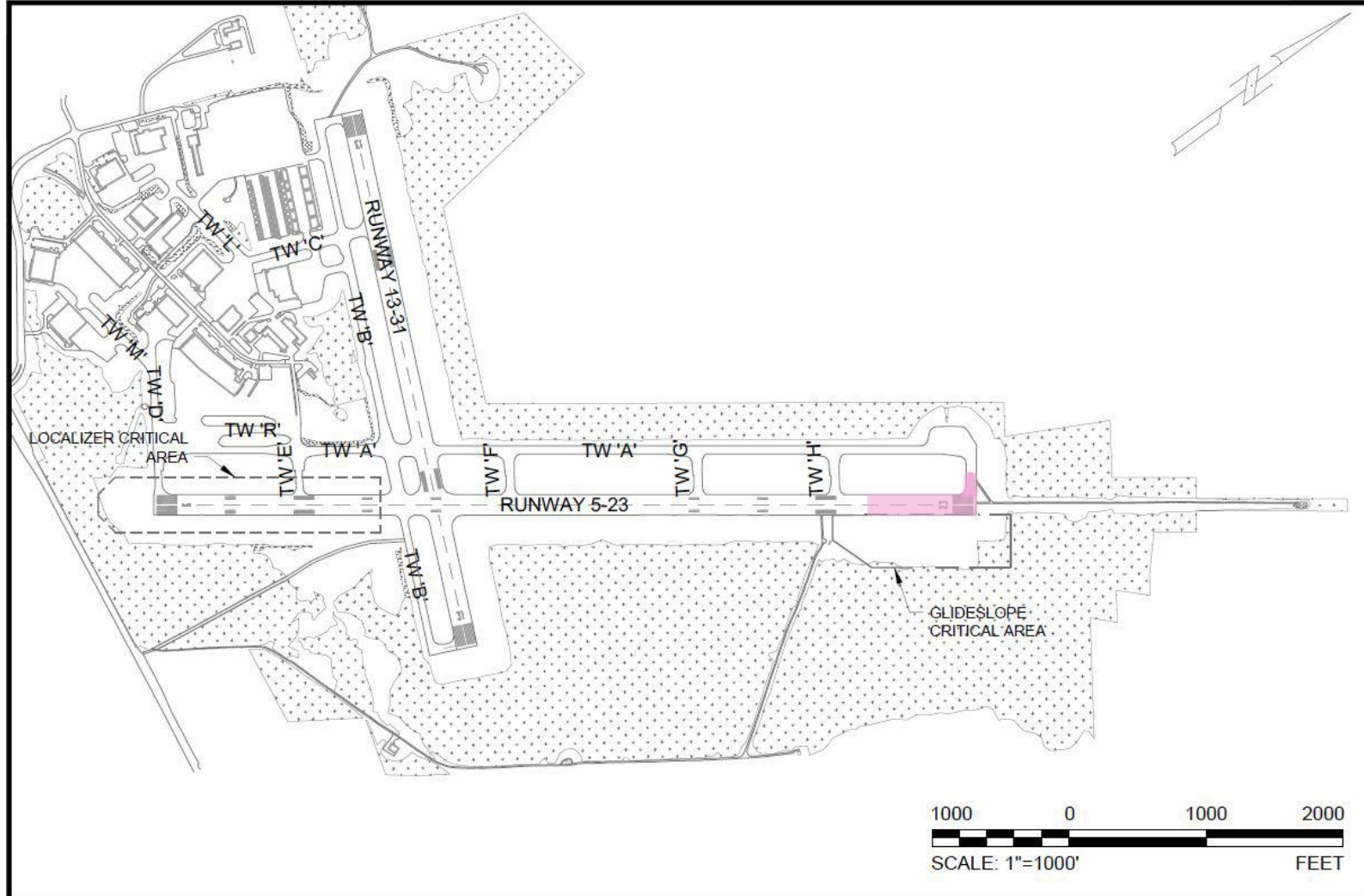
- ✈ Approaches/NAVAIDs out of service (OOS):
 - ✈ ILS RWY 23 & MALSR OOS entire phase
- ✈ Approaches Available
 - ✈ LOC RWY 23
 - ✈ RNAV (RNP) Y RWY 23
 - ✈ RNAV (GPS) RWY 05
 - ✈ RNAV (GPS) Z RWY 23

* Timing dependent on Phase II B completion

*Approach availabilities subject to change from FAA

Phase II C: RWY 5-23 Operational Impacts

DRAWING: MMU - exh.dwg LAYOUT: L1



RWY 23 Threshold Displaced for 120 days
(approximately 5,097' RWY remaining)

✈ **Taxiway Alpha** closed from RWY 23
Hold line to approach end of RWY 23



www.deltaairport.com

REHABILITATE RUNWAY 5-23, AIRFIELD IMPACTS
MORRISTOWN MUNICIPAL AIRPORT

DRAWN BY:

CHECKED BY:

SCALE:

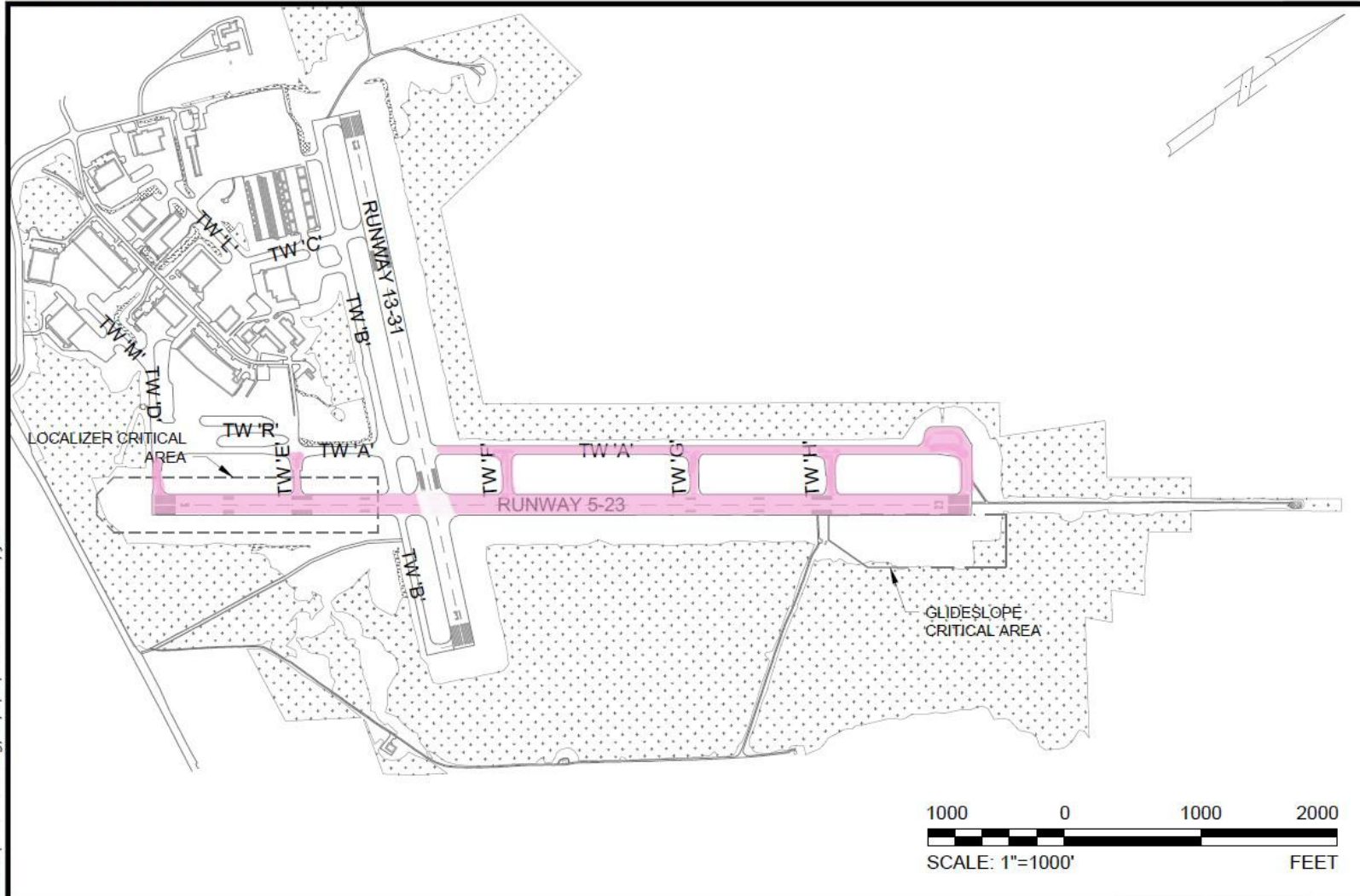
1" = 1,000'

DATE:



Phase II C: RWY 5-23 Operational Impacts

DRAWING: MMU - exh.dwg LAYOUT: L1



**RWY 5-23 closed for 30 Night Closures;
within the 120 day total contract time**

(2200L – 0600L)

- ✈ **Taxiway Delta** closed from Taxiway Alpha to RWY 5
- ✈ **Taxiway Alpha** closed from RWY 13-31 to RWY 23
- ✈ **Taxiways Echo, Foxtrot, Golf & Hotel** closed from Taxiway Alpha to RWY 5-23
- ✈ *Construction traffic crossing Taxiway Bravo and RWY 13-31 with escort from Airport Ops*



**REHABILITATE RUNWAY 5-23, AIRFIELD IMPACTS
MORRISTOWN MUNICIPAL AIRPORT**



DRAWN BY: _____ CHECKED BY: _____ SCALE: 1"=1,000' DATE: _____

Importance of Phase II Construction

- ✈ Grading work and culverts provides an enhanced Runway Safety Area when departing RWY 5
- ✈ Current MALSR system is outdated and needs to be upgraded to provide pilots with the best navigational aids
- ✈ Replacement of deer grates will deter wildlife from airfield and approach end of RWY 23 while creating greater structural integrity than existing system

End of Phase C Overview

Online Resources

- www.mmuair.com/airfieldimprovement
 - Airfield Alerts:
 - www.mmuair.com home page
 - Click on “Sign Up for Airfield Alerts”
 - Follow @MMUairport on Twitter
-

DM Contacts:

Darren Large
darrenl@mmuair.com
973-538-6400

Corey Hanlon
coreyh@mmuair.com
973-538-6400